

CSN polymer binds CaPO₄

D'Eustachio, P., Jassal, B.

European Bioinformatics Institute, New York University Langone Medical Center, Ontario Institute for Cancer Research, Oregon Health and Science University.

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Introduction

Reactome is open-source, open access, manually curated and peer-reviewed pathway database. Pathway annotations are authored by expert biologists, in collaboration with Reactome editorial staff and cross-referenced to many bioinformatics databases. A system of evidence tracking ensures that all assertions are backed up by the primary literature. Reactome is used by clinicians, geneticists, genomics researchers, and molecular biologists to interpret the results of high-throughput experimental studies, by bioinformaticians seeking to develop novel algorithms for mining knowledge from genomic studies, and by systems biologists building predictive models of normal and disease variant pathways.

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Literature references

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Reactome database release: 88

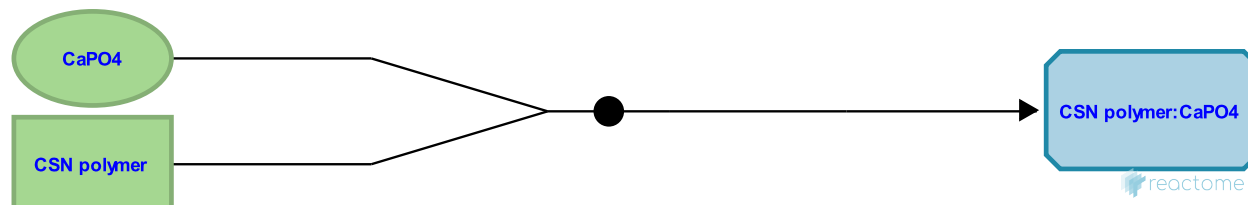
This document contains 1 reaction ([see Table of Contents](#))

CSN polymer binds CaPO4 [↗](#)

Stable identifier: R-HSA-5340124

Type: binding

Compartments: extracellular region



In milk, caseins (CSNs) interact with calcium phosphate (CaPO₄), forming large stable colloidal particles called micelles. These micelles make it possible to maintain a supersaturated CaPO₄ concentration in milk, providing the newborn with sufficient calcium phosphate for the mineralisation of calcified tissues. Human alpha-S1-casein (CSN1S1) is able to bind CaPO₄ in milk. CSN1S1 forms a disulfide cross-linked heteropolymer with kappa-casein (CSN3), another CSN that is thought to stabilise micelle formation and thus preventing casein precipitation in milk (Brignon et al. 1985, Rasmussen et al. 1995, Johnson et al. 1995).

Literature references

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Editions

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